

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1. (Currently amended) A precursor to a semiconductor device structure, comprising:
a semiconductor device layered structure comprising a semiconductor substrate;
a buffer film layer located over at least a portion of ~~said~~the semiconductor substrate;
at least one trench formed in ~~said~~the semiconductor device layered structure; and
at least one shallow trench isolation structure positioned at least partially within ~~said~~the at least one trench and including:
a substantially flat surface; and
an integral ledge which extends laterally outward from ~~said~~the at least one trench so as to contact only an area of an active surface of ~~said~~the semiconductor substrate adjacent ~~said~~the at least one trench.
2. (Currently amended) The precursor of claim 1, wherein ~~said~~the buffer film layer comprises substantially oxidation resistant material.
3. (Currently amended) The precursor of claim 2, wherein ~~said~~the substantially oxidation resistant material is selectively etchable.
4. (Currently amended) The precursor of claim 1, wherein a lateral edge of ~~said~~the integral ledge contacts ~~said~~the buffer film layer.
5. (Currently amended) The precursor of claim 1, wherein ~~said~~the at least one shallow trench isolation structure comprises densified material.

6. (Currently amended) The precursor of claim 1, wherein ~~said~~the buffer film layer comprises silicon nitride.

7. (Currently amended) An intermediate semiconductor device structure, comprising:
a semiconductor substrate including at least one trench formed therein and at least one trench corner located at a juncture between ~~said~~the at least one trench and an active surface of ~~said~~the semiconductor substrate; and
a buffer film layer over at least portions of ~~said~~the active surface; and
at least one densified trench isolation structure including a substantially flat surface exposed through ~~said~~the buffer film layer, ~~said~~the at least one trench corner being covered by ~~said~~the at least one densified trench isolation structure.

8. (Currently amended) The intermediate semiconductor device structure of claim 7, wherein ~~said~~the buffer film layer comprises a substantially oxidation resistant material

9. (Currently amended) The intermediate semiconductor device structure of claim 7, further comprising:
a layer comprising silicon oxide disposed within ~~said~~the at least one trench and between ~~said~~the semiconductor substrate and ~~said~~the buffer film layer.

10. (Currently amended) The intermediate semiconductor device structure of claim 9, wherein ~~said~~the layer comprises densified silicon dioxide.

11. (Currently amended) The intermediate semiconductor device structure of claim 7, wherein ~~said~~the at least one densified trench isolation structure comprises densified material.

12. (Currently amended) The intermediate semiconductor device structure of claim 7, wherein ~~said~~the buffer film layer comprises silicon nitride.

13. (Currently amended) An intermediate semiconductor device structure, comprising:
a semiconductor substrate including at least one trench formed therein and at least one trench corner located at a juncture between ~~said~~the at least one trench and an active surface of ~~said~~the semiconductor substrate; and
at least one trench isolation structure including a substantially flat surface, ~~said~~the at least one trench isolation structure extending laterally ~~only over~~ and contacting only a portion of ~~said~~the active surface adjacent ~~said~~the at least one trench corner so as to electrically isolate ~~said~~the at least one trench corner.

14. (Currently amended) The intermediate semiconductor device structure of claim 13, wherein ~~said~~the at least one trench isolation structure comprises densified silicon dioxide.

15. (Canceled)

16. (Currently amended) The intermediate semiconductor device structure of claim 15, wherein ~~said~~the silicon oxide layer comprises densified silicon dioxide.

17. (Currently amended) The intermediate semiconductor device structure of claim 13, wherein ~~said~~the buffer film layer comprises silicon nitride.

18. (Currently amended) A precursor to a semiconductor device structure, comprising:
a semiconductor substrate;
at least one trench formed in ~~said~~the semiconductor substrate;
a buffer film layer over an active surface of ~~said~~the semiconductor substrate;
and at least one shallow trench isolation structure at least partially within ~~said~~the at least one trench and exposed through ~~said~~the buffer film layer, ~~said~~the at least one shallow trench isolation structure including at least one integral ledge extending laterally outward from ~~said~~the at least one trench so as to contact an area of ~~said~~the active surface adjacent ~~said~~the at least one trench.

19. (Currently amended) The precursor of claim 18, wherein ~~said~~the at least one shallow trench isolation structure includes a substantially planar surface.

20. (Currently amended) The precursor of claim 18, wherein ~~said~~the at least one shallow trench isolation structure comprises densified silicon oxide.

21. (Currently amended) The precursor of claim 18, wherein ~~said~~the buffer film layer comprises silicon nitride.

22. (Currently amended) The precursor of claim 18, wherein ~~said~~the buffer film layer comprises densified material.

23. (Currently amended) The precursor of claim 18, wherein ~~said~~the buffer film layer comprises substantially oxidation resistant material.

24. (Currently amended) The precursor of claim 23, wherein ~~said~~the substantially oxidation resistant material is selectively etchable.